REMARKS

Claims 1-12 were reviewed. Claims 1-2, 5-6 and 9 are amended. Claims 2, 6, and 10 are canceled. Claims 1, 3-5, and 7-9, and 11-12 remain in the Application.

The Patent Office rejects claims 9-10 and 12 under 35 U.S.C. § 102(b) and 9-12 under 35 U.S.C. § 102(e). The Patent Office rejects claims 1-12 under 35 U.S.C. § 103(a). Reconsideration of the pending claims is requested in view of the above amendments and the following remarks.

A. 35 U.S.C. § 102(b): Rejection of claims 9-10 & 12

The Patent Office rejects claims 9-10 and 12 under 35 U.S.C. § 102(b) as anticipated by EP0789410 A1 of Nunome ("Nunome"). Nunome is cited for teaching a positive active material of $LiMn_2O_4$ or $LiMnO_2$ and a surface layer of an oxide of Ti, Co, Ni, Sr, or La.

Independent claim 9 describes a positive electrode including a plurality of active material particles and a metallic oxide coated on each of the active material particles. The metallic oxide comprises a metal selected from Mg and Al.

Independent claim 9 is not anticipated by Nunome, because Nunome does not teach a positive electrode having a plurality of active material particles each coated with a metallic oxide selected from Mg and Al.

Claim 12 depends from claim 9 and therefore contains all the limitations of that claim. For at least the reasons stated with respect to claim 9, claim 12 is not anticipated by Nunome. Applicants respectfully request that the Patent Office withdraw the rejection to claims 9 and 12 under 35 U.S.C. § 102(b).

B. 35 U.S.C. § 102(e): Rejection of claims 9-12

The Patent Office rejects claims 9-12 under 35 U.S.C. 102(e) as anticipated by U.S. Patent No. 6,365,299 issued to Miyaki et al. ("Miyaki"). Miyaki is cited for teaching a positive electrode and a protective layer on the positive electrode. In one embodiment, the protective layer can be formed successively or simultaneously by applying an electrode material mixture onto a current collector. See col. 6, lines 47-50. Applicants interpretation of the cited paragraph is that the protective layer can be formed "successively or simultaneously" on the negative and positive electrode.

Independent claim 9 describes a positive electrode comprising a plurality of active material particles and a metal oxide coated on each of the active material particles. The positive electrode is formed after the active material particles are coated with metallic oxide.

Claim 9 is not anticipated by Miyaki because Miyaki does not teach that a positive electrode is formed after the active material particles are coated with metallic oxide.

Claims 11-12 depend from claim 9 and therefore contain all the limitations of that claim. For at least the reason stated with respect to claim 9, claims 11-12 are not anticipated by Miyaki. Applicants respectfully request that the Patent Office withdraw the rejection to claims 9 and 11-12 under 35 U.S.C. § 102(e).

C. 35 U.S.C. § 103: Rejection of claims 1-12

The Patent Office rejects claims 1-12 under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,674,645 issued to Amatucci et al. ("Amatucci") in view of WO 99/05734 of Takeuchi et al. ("Takeuchi"). Amatucci is relied on to show a lithium ion rechargeable battery having a lithium manganese oxy-flouride positive electro-material. It is noted that Amatucci does not teach that the lithium manganese oxy-flouride positive electro-material is coated with a metallic oxide. The Patent Office relies on Takeuchi to cure this deficiency of Amatucci.

Independent claim 1 describes a positive active material including an active material component and a metal oxide coated on the active material component, the metallic oxide comprising a metal selected from magnesium and aluminum. Claims 3-4 depend from claim 1. The claimed active material components and metallic oxide were conceived in Korea at least as early as December 20, 1998, as evidenced by the Invention Report accompanying the declarations of each inventor under 37 C.F.R. § 1.131 submitted to the Patent Office with a response filed May 27, 2003. The December 20, 1998 conception date precedes the priority date of Takeuchi of February 4, 1999. In view of the 1.131 declarations, Takeuchi cannot properly be sited against the pending claims. Applicants respectfully request that the Patent Office withdraw the rejection under 35 U.S.C. § 103(a) over Amatucci and Takeuchi of claims 1 and 3-4.

Independent claim 5 relates to a method of preparing a positive active material. The method includes obtaining a powder from source material and coating the powder with a metallic oxide solution selected from the group consisting of Mg-Alkoxide and Al-Alkoxide. Claims 7 and 9 depend from claim 5.

Independent claim 5 is also supported by conception date of December 20, 1998 as evidenced by the affidavits of the inventors under 37 C.F.R. § 1.131. Accordingly, similar to independent claim 1, Takeuchi cannot properly be cited against claim 5. Accordingly, Applicants respectfully request the Patent Office withdraw the rejection to claim 5 and 7-9 under 35 U.S.C. § 103(a) over Amatucci in view of Takeuchi.

Independent claim 9 relates to a positive electrode comprising a plurality of active material particles coated with a metallic oxide comprising a metal selected from Ng and Al. Claims 11-12 depend from claim 9. These claims are entitled to the date of conception of December 20, 1998 as supported in the affidavits filed by the inventors under 37 C.F.R. § 1.131. Accordingly, Takeuchi cannot properly be cited against claims 9 and 11-12.

Applicants respectfully request the Patent Office withdraw the rejection under 35 U.S.C. § 103(a) over Amatucci in view of Takeuchi.

D. 35 U.S.C. § 103(a): Rejection of claims 1-4

The Patent Office rejects claims 1-4 under 35 U.S.C. § 103(a) as obvious over Amatucci in view of U.S. Patent No. 5,869,208 issued to Miyasaka ("Miyasaka"). In making the rejection, the Patent Office relies on Amatucci to show a lithium ion rechargeable battery having a lithium manganese oxy-fluoride positive electrode material. The Patent Office relies on Miyasaka to describe coating the electrode material with a metal oxide.

Independent claim 1 describes a positive active material comprising an active material component and a metallic oxide coated on the active material component. The positive active material is formed of metallic oxide coated active material moieties.

Independent claim 1 is not obvious over the cited references because the references do not describe a positive active material comprising metallic oxide coated active material moieties. Miyasaka teaches coating an electrode with an oxide after the electrode is formed. There is no teaching or motivation in the references to form a positive active material of metallic oxide coated active material moieties.

For the above stated reason, claim 1 is not obvious over the cited references. Claims 3-4 depend from claim 1 and therefore contain all the limitations of that claim. For at least the reason stated with respect to claim 1, claims 3-4 are not obvious over the cited references.

Applicants respectfully request that the Patent Office withdraw the rejection under 35 U.S.C. § 103(a) as obvious over Amatucci in view of Miyasaka.

E. 35 U.S.C. § 103(a): Rejection of claim 11

The Patent Office rejects claim 11 under 35 U.S.C. § 103(a) as obvious over Nunome. Claim 11 depends from claim 9 and therefore contains all the limitations of that claim. Claim 11 is not obvious over Nunome for the reasons stated above with respect to claim 9.

Applicants respectfully request that the Patent Office withdraw the rejection of claim 11 under 35 U.S.C. § 103(a) as obvious over Nunome.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Nedy Calderon 6/25/2004
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